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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/583,323

06/16/2006

Shuji Saiki

2006-0957A

3238

52349

7590

05/09/2008

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EXAMINER

ROBINSON, RYAN C

ART UNIT

PAPER NUMBER

4142

MAIL DATE

DELIVERY MODE

05/09/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/583,323	Applicant(s) SAIKI ET AL.	
	Examiner RYAN C. ROBINSON	Art Unit 4142	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 June 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5 is/are rejected.
- 7) ☒ Claim(s) 6-11 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 16 June 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>6/16/2006</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. Claims 1-11 are pending in the current application

Claim Rejections - 35 USC § 103

2. **Claims 1-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yando, U.S. Patent No. 3,727,719, published on 4/17/1973, (hereby Yando), in view of Ward, U.S. Patent No. 4,657,108, published on 4/14/1987, (hereby Ward).**

3. As to claim 1, Yando discloses a “*speaker system*” (Fig. 6) comprising “*a cabinet*” (Fig. 6, element 210), “*in which a sealed chamber sealed from outside air*” (Col. 7, line 7) “*is formed in at least a portion of an interior chamber of the cabinet*” (Fig. 6, element 210), a “*speaker unit provided in a first opening formed in the cabinet*” (Fig. 6, element 215); and a “*variable mechanism, provided in a second opening, different from the first opening, formed in the cabinet*” (Fig. 6, element 225), “*for varying a volume of the sealed chamber of the cabinet*” (Col. 4, lines 1-5), “*in accordance with at least a pressure variation of a direct current component*” (Col. 3, lines 29-30), the variable mechanism moves along the equilibrium plane, and the plane is dependent on atmospheric pressure (Col. 4, lines 29-30), corresponding to the “*direct current component*”.

Yando discloses that the “*pressure variation*” occurs “*in the sealed chamber*” (Col. 2, lines 45-50), ‘pressure modulations’ corresponding to “*pressure variation*”. The “*variable mechanism*” includes a “*plate member*” (Fig. 6, element 225), and a

“supporting member, fixed on the second opening” (Fig. 6, elements 224, 226), “for supporting the platemember” (Col. 7, lines 51-53), “such that the plate member is capable of being displaced in a direction in which the volume of the sealed chamber increases or decreases” (Col. 7, lines 54-55).

It is noted, however, that Yando does not disclose an *“adsorption member, disposed in the sealed chamber of the cabinet, for physically adsorbing gas in the sealed chamber”*.

On the other hand, Ward teaches an *“adsorption member”* (Fig. 1, element 1), *“disposed in the sealed chamber of the cabinet”* (Fig. 1, element 20), *“for physically adsorbing gas in the sealed chamber”* (Col. 1, lines 24-25).

It would have been obvious to one of ordinary skill at the time of applicant's invention to include an adsorption member as taught by Ward for adsorbing gas in the speaker cabinet of Yando, because both Yando and Ward are directed to solving the same problem of reducing pressure variations within an airtight speaker cabinet (Yando: Col. 4, lines 20-23, Ward: Col. 1, lines 39-42). As disclosed by Ward, the motivation for the combination would have been to further decrease the pressure variations in the cabinet, thereby allowing for an even more compact speaker cabinet design desired by Yando (Yando: Col. 2, lines 13-15).

4. As to claims 2 and 3, Ward teaches that the *“adsorption member”* (Fig. 1, element 20) is a *“porous material”* (Col. 3, lines 31-32), and is *“activated carbon”* (Col. 2, lines 51-52).

5. As to claim 4, Yando teaches that *"the interior chamber of the cabinet is formed only by the sealed chamber"* (Fig 6, element 210). The cabinet (210) is one chamber, and airtight, (Col. 2, lines 35-36), corresponding to *"sealed"*. The *"plate member of the variable mechanism"* (Fig. 6, element 225), is *"displaced, more easily than a diaphragm of the speaker unit"* (Col. 3, lines 34-43). Yando suggests that the compliance of the membrane support and mass of the plate should be proportioned for the desired stiffness of the system, corresponding to *"displaced more easily"*,

Yando discloses that the plate member is displaced *"in accordance with at least the pressure variation of the direct current component"* (Col. 3, lines 29-30), the variable mechanism moves along the equilibrium plane, and the plane is dependent on atmospheric pressure (Col. 4, lines 29-30), corresponding to the *"direct current component"*. The *"pressure variation"* occurs *"in the sealed chamber"* (Col. 2, lines 45-50), 'pressure modulations' corresponding to *"pressure variation"*. The displacement occurs *"in the direction in which the volume of the sealed chamber increases or decreases"* (Col. 7, lines 54-55), *"and a resonance frequency of the variable mechanism is lower than that of the speaker unit"* (Col. 3, line 34-35). Yando suggests that the mass of the plate should be adjusted for the desired resonance, corresponding to *"lower than that of the speaker unit"*.

6. As to claim 5, Yando discloses a *"drone cone"*, *"provided in a third opening, different from the first and the second openings, formed in the cabinet"* (Fig. 6, element

213), “*wherein the plate member of the variable mechanism is displaced, more easily than a diaphragm of the drone cone*” (Col. 3, lines 34-43). Yando suggests that the compliance of the membrane support and mass of the plate should be proportioned for the desired stiffness of the system, corresponding to “*displaced more easily*”, “*in accordance with at least the pressure variation of the direct current component*” (Col. 3, lines 29-30), the variable mechanism moves along the equilibrium plane, and the plane is dependent on atmospheric pressure (Col. 4, lines 29-30), corresponding to the “direct current component”. The displacement occurs “*in the direction in which the volume of the sealed chamber increases or decreases*” (Col. 7, lines 54-55), “*and the resonance frequency of the variable mechanism is lower than that of the drone cone*” (Col. 3, line 34-35). Yando suggests that the mass of the plate should be adjusted for the desired resonance, corresponding to “*lower than that of the drone cone*”.

Allowable Subject Matter

7. Claims 6-11 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

8. As to claim 6, both Yando and Ward do not disclose that the variable mechanism includes a “*first parting board*”, and that the parting board includes a “*sound hole*”.

Conclusion

The prior art made of record

- a. US Patent Number **3,727,719**
- b. US Publication Number **4,657,108**

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ryan C. Robinson whose telephone number is (571) 270-3956. The examiner can normally be reached on Monday through Friday from 9 am to 5 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sinh Tran, can be reached on (571) 272-7564. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/RR/

/Sinh N Tran/

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Art Unit: 2615

Supervisory Patent Examiner, Art Unit 2615